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ABSTRACT

This digest of what is currently known about learning disabilities (LD) begins with a brief vignette and then notes that individuals with LD generally have average or above average intelligence, yet underachieve in academics. Five common problem areas for individuals with LD are also examined: reading, written language, math, memory, and metacognition. Other topics briefly addressed include social and behavioral characteristics of students with LD, prevalence of LD, causes, best practices (such as direct instruction of specific skills and learning strategy instruction), and program options within a continuum of school services. (Contains 17 references.) (DB)

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He lets out a sigh and slouches in his chair. Arms folded, he glares at the book with a furrowed brow. After a moment, the boy glances at his friend sitting across the aisle, leans forward to the book once more, and runs his index finger along the lines of text. His lips contort in an attempt to silently sound out the words that stare back at him. He stops again, purses his lips, looks to the front of the room, and raises his hand. When the boy's history teacher walks over to the side of his desk, the boy quietly asks, "What does fed-er-al-ism mean?"

This boy is one example of a student with learning disabilities (LD). Individuals with LD typically look like their peers, but differ from them as well as others with LD in many ways. For example, one person with learning disabilities may have strengths in math and reasoning, yet weaknesses in understanding and communicating what he or she hears or reads. Another person with LD may demonstrate very different strengths and weaknesses.

Individuals with LD generally have average or above average intelligence, yet they often do not achieve at the same academic level as their peers. Their weaker academic achievement, particularly in reading, written language, and math, is perhaps the most fundamental characteristic of individuals with LD. Significant deficits often exist in memory, metacognition, and social skills as well. Let's look a bit more closely at each of these areas.

Reading

Individuals who have LD in reading have difficulties decoding or recognizing words (e.g., letter/sound omissions, insertions, substitutions, reversals) or comprehending them (e.g., recalling or discerning basic facts, main ideas, sequences, or themes). They also may display other difficulties such as losing their places while reading or reading in a choppy manner. Some researchers argue that a difficulty with phonological awareness or phonological processing—recognizing sound segments in the spoken word—underlies reading disabilities, and this capability is requisite for understanding the relationship between written letters and sounds (Torgesen & Wagner, 1998).

Another term sometimes used in conjunction with reading disabilities is dyslexia. Dyslexia may be best understood as a type of reading disability. During early childhood, children with dyslexia have difficulties learning spoken language. Later in their school years, children with dyslexia have trouble decoding and spelling words and, consequently, are likely to experience comprehension problems also.

A reading disability affects every aspect of an individual's life, from the early years of school when children learn to read, to later years when students are expected to read in order to learn specific content, and into the community, home, and workplace where every person needs to acquire and understand written information.

Written Language

For students with LD, problems in written language can occur in handwriting, spelling, sentence structure, vocabulary usage, volume of information produced, and organization of written ideas. Moreover, individuals who have difficulties in one area may demonstrate strengths in others. Many students with LD in reading also have difficulty writing, since both areas are language-based (receptive and expressive). Difficulties with writing affect a student's achievement in virtually every content area. For example, students with writing difficulties may understand concepts in science or social studies, but be unable to express their understanding on an essay exam or in a lab report. They may also demonstrate considerable understanding in group or class discussions, but later turn in a homework assignment on the same material that lacks clarity or organization.

Math

Poor math achievement may appear in difficulties differentiating numbers and copying shapes (poor visual perception), recalling math facts (memory problems), writing numbers legibly or in small spaces (weak motor functions), and relating math terms to meaning (poor understanding of math-related vocabulary). Other weak areas may include abstract reasoning (solving word problems and making comparisons) and metacognition (including identifying, using, and monitoring the use of algorithms to solve math problems).

Memory

Some people with LD have weaknesses in working memory also. They have a difficult time processing information so that it can be stored in long-term memory. For example, some students with learning disabilities will "study" by staring at notes or reading vocabulary words over and over again, which are ineffective learning strategies. Consequently, difficulties in working memory can lead to difficulties in long-term memory when a person needs to search for and retrieve knowledge in a timely, organized manner.

Metacognition

Individuals with LD may also have deficits in metacognition, the awareness of how one thinks and the monitoring of one's thinking. Research suggests that many individuals with LD do not

know many effective cognitive strategies for acquiring, processing, storing, and demonstrating understanding of information. Weaknesses in metacognition then affect their understanding of when, where, and why their known strategies are important, as well as their proficiency in selecting and monitoring the use of strategies (Mercer, 1997).

Social and Behavioral Characteristics

Students with LD may demonstrate social or behavioral challenges as well. Some exhibit fewer socially acceptable behaviors than peers, are unable to predict consequences for behaviors, misinterpret social cues, or are less likely to adapt their behavior to different social situations. They are sometimes neglected or rejected by peers. Coupled with academic weaknesses, this experience can lead to lowered self-perceptions of competence or worth among older individuals with LD. Others who have LD have difficulty sitting at a desk for long periods of time in order to attend to classroom tasks and may develop social or behavioral problems in response to their frustration with learning tasks.

Prevalence

More than 50 percent of the students receiving special education services in the United States have LD. The number of students identified as having LD and receiving special education services has more than doubled since the original passage of IDEA in 1975. Some educators estimate that between 5 and 10 percent of children between ages 6 and 17 have LD.

Causes

No one is quite sure what causes LD. Some evidence indicates that LD may "run in families," but that is not always the case. Environmental factors, from inadequate learning environments to exposure to harmful substances, may lead to LD. Recent studies using imaging technology have found differences in brain structure between students who have reading disabilities with oral language difficulties and those without disabilities.

Best Practices

Research indicates that the best instructional practices for students with LD include direct instruction of specific skills and learning strategy instruction (Swanson & Hoskyn, 1998). Students with LD should be explicitly taught to complete a variety of academic tasks in a step-by-step fashion. When taught correctly, learning strategy interventions and direct instruction provide students with appropriate modeling, practice, and feedback to master skills and cognitive strategies for independent use in a variety of situations in and outside of school. Successful strategy and direct instruction programs include Self-Regulated Strategy Development for writing, learning strategies curriculum in reading, writing, and memory from the Strategic Instruction Model, Direct Instruction programs in reading and math, mnemonic strategies for all content areas, and self-monitoring strategies.

Program Options

Most students with LD receive the majority of their education in the general education classroom. However, a continuum of school services should be available to meet each individual student's needs. Support in the general education classroom can exist in the form of a special educator co-teaching with or serving as a consultant to the general educator. Students may also receive services in a resource room or a special classroom. In addition, special schools are available for students whose needs cannot be met in the regular school. The Individualized Education Program team determines where a student with learning disabilities will receive special education services.

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